



# UNDERSTANDING PANDEMIC LEARNING LOSS AND LEARNING RECOVERY: THE ROLE OF STUDENT GROWTH & STATEWIDE TESTING

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# CENTER FOR ASSESSMENT



## INSIDE

BACKGROUND .....	3
THE NECESSITY OF DATA .....	4
USING STUDENT GROWTH TO ASSESS LEARNING LOSS .....	6
IMPACT .....	9
RECOVERY .....	11
CONCLUSION .....	14



# UNDERSTANDING PANDEMIC LEARNING LOSS AND LEARNING RECOVERY: THE ROLE OF STUDENT GROWTH & STATEWIDE TESTING

## BACKGROUND

The COVID-19 pandemic has led to unprecedented changes in the way we live our lives in the United States, including the ways in which we educate our students. Beginning in spring 2020, the education of students was dramatically interrupted due to the pandemic. Even now in fall-winter 2020 the majority of students in the United States continue to experience substantial impacts to their education.

Impacts to education and students occur in several ways. The educational impact most often discussed is that on student learning: academic impact. However, students' socio-emotional and physical health are also affected. And a downfall in one area can lead to a downfall in another. Unfortunately, for the majority of students, the impact in terms of both academic and non-academic outcomes has been negative.

Considering just the negative academic impact, due to various, interrelated circumstances such as mode and quality of education services, family resources, and local policy toward COVID-19, it is all but certain that the effects of the pandemic on the educational lives of students are being felt unevenly across the United States. Because of the pandemic's uneven impact, we cannot simply treat everyone with the same intervention and fix what ails them academically – there is and will be no one-size-fits-all vaccine that we administer to each child that cures their academic maladies.

Indeed, the most challenging aspect of helping students recover academically from the impacts of the pandemic will be in answering the question of **How to help?**

Interventions will need to be tailored by district, school, content area and by student. But it would be a mistake to jump ahead and implement plans and interventions of **How to help?** before first addressing three more basic questions: **Who needs help?**, **What do they need help in?**, and **How much help do they need?**

Restricting our focus to just the pandemic's academic impact – often referred to as student learning loss or unfinished learning – narrows these three questions down to what must serve as a starting point in any effort to overcome the pandemic's impact on student learning:

- **Who?** Who is experiencing or has experienced learning loss?
  - Are students experiencing learning loss related to where they live (region, state, district, or school), their demographic subgroup (ethnicity, socio-economic status), their grade, the educational services they received (e.g., remote learning) during the pandemic?

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- **What?** What have students experienced learning loss in?
  - In what content areas are students experiencing learning loss? Are there major domains or sets of standards where students have been affected?
- **How much?** How much learning loss have students experienced?
  - What is the magnitude of the learning loss? Is the learning loss larger in one content area than in another? Is the learning loss larger for low-achieving students than high-achieving students?

Answering these three questions allows stakeholders to begin to recognize the scope of the impact and dedicate attention and resources where they are needed. How well these questions are answered affects the quality, granularity and ultimately the success of the interventions. For example, consider the most critical of the three questions: **How much?** An answer to this question will help understand the time and effort needed for recovery: Is recovery possible in months or will it take years? Coupled with answers to **Who?** and **What?** expectations for support and recovery can be sensibly calibrated and directed based upon the best evidence available.

A failure to address these three questions leaves us in the dark amidst a once in a century calamity impacting the more than 50 million students in the United States. Such a failure strikes at the heart of equity in education efforts that are built upon an accurate assessment of how students, particularly disadvantaged students, perform relative to their advantaged peers. But most importantly, answering these three questions is only an essential first step that must be followed by more questions supporting the really hard work to determine **How to help?** especially those most in need of assistance.

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## THE NECESSITY OF DATA

So how do we answer these questions? An essential prerequisite is data – a substantial amount of data on the academic attainment of students. These data come in many forms ranging in granularity from teacher observations all the way up to results from large-scale standardized assessments. In education, no one, single data point ever tells the whole story. Especially under the current novel circumstances, data from many disparate sources are required and need to be comprehensively marshalled to answer **Who?**, **What?** and **How much?**

To that end, over the last two decades in the United States we have developed efficient and effective ways to obtain state-wide, high-level data about student achievement through large-scale, state summative assessment programs. Billions of dollars have been spent to develop these programs so that the tests they comprise can be administered broadly and with fidelity to virtually all students, align with state established content standards, and be of high technical quality. Due to the onset of the pandemic and associated shutdowns in spring, 2020, statewide testing was cancelled. Barring situations that unnecessarily put the health of students, staff and teachers at risk, states should do

the best they can to collect these data in 2021 as they will be essential to answer who, what and how much.

Given the rapid onset of the pandemic, any data from a summative assessment carried out in spring 2020 would have been of little use in understanding the impact of the pandemic on student learning because the disruption to educational programming had just begun at the time of proposed administration. Ten months into the pandemic, we are left scrambling for answers to **Who?, What?, and How much?**. Available data from interim assessments administered in fall 2020 has filled some of the data void.

Recent learning loss results from Renaissance Learning and NWEA based upon results from interim assessment products administered in fall 2020 help to illustrate the importance of having data on student attainment and growth and what can be discerned about the impact of the pandemic on student learning in the United States.<sup>1,2</sup> Based upon millions of student test results, both studies utilized historical growth norms to assess the learning of students between fall 2019 and fall 2020. Results from Renaissance and NWEA generally align in terms of both overall learning loss as well as differential learning loss between student subgroups:

- Overall: The pandemic is impacting student learning negatively. Learning loss in mathematics is large while that in reading is modest. Learning loss was uneven across grades.
- Differential: Learning loss differences between demographic subgroups is minor at this point in time and less than feared.

Assuming the results are consistent with future findings from other data sources (e.g., large scale summative assessments), they have significant practical and policy implications. The Renaissance STAR student growth data in mathematics, for example, indicated a 15-point drop in median student growth percentile (SGP). Such a loss at a state level (let alone at the national level) is unprecedented and implies substantial learning loss nationally.<sup>3</sup> Moreover, it is highly unlikely that a loss of that magnitude can be ameliorated based upon a resumption of the normal course of schooling or through the implementation of some modest intervention.

The results, though compelling, have major limitations. Because of the pandemic, the data utilized to examine learning loss did not display the same representativeness, particularly with disadvantaged students, as is normally the case. If we assume (and this would need to be rigorously verified by looking at who tested versus who didn't) that those who were missing would be negatively impacted, on average, as much or more than those who tested, then the results in the report present a best-case scenario on student learning loss at this point in time.

Other limitations include an incomplete understanding on how the allowance for both at-home and in-class test administration biases results. Because historical growth norms are derived solely from in-class administration, remote administration may yield inaccurate growth results. Because both companies can only utilize data based upon their customer base, generalization to locales and groups not represented in the data is problematic. And lastly, the interim tests show, at best,

<sup>1</sup> Renaissance Learning (2020). *How Kids are Performing: Tracking the impact of COVID-19 on Reading and Mathematics Achievement*. Special Report Series, Fall 2020 Edition (<https://www.renaissance.com/how-kids-are-performing/>)

<sup>2</sup> Kuhfeld, M, Tarasawa, B., Johnson, A., Ruzek, I, & Lewis K. (2020). *Learning during COVID-19: Initial findings on students' reading and math achievement and growth*. NWEA. (<https://www.nwea.org/content/uploads/2020/11/Collaborative-brief-Learning-during-COVID-19.NOV2020.pdf>)

<sup>3</sup> An SGP difference of -15 corresponds to an effect size of -0.54.



modest coverage and alignment with state content standards. Would learning loss look the same, for example, as learning loss derived from assessments having broad coverage and alignment with state standards?<sup>4</sup>

These limitations speak to the importance of having multiple sources of high-quality assessment data to understand and ultimately to help mitigate COVID-19 learning loss. These data should be derived from assessments aligned with accepted academic standards that are broadly and appropriately administered. As we begin 2021, the importance of doing our best to administer statewide assessments is more important than ever. Without such data, we will remain in the dark and unable to answer **Who?, What?, and How much?** As more interim and, presumably, statewide testing data becomes available, sound conclusions can be drawn that have the potential to inform significant pedagogical and policy related decisions directed to ameliorate the impact of the pandemic on student learning going forward.

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## USING STUDENT GROWTH TO ASSESS LEARNING LOSS

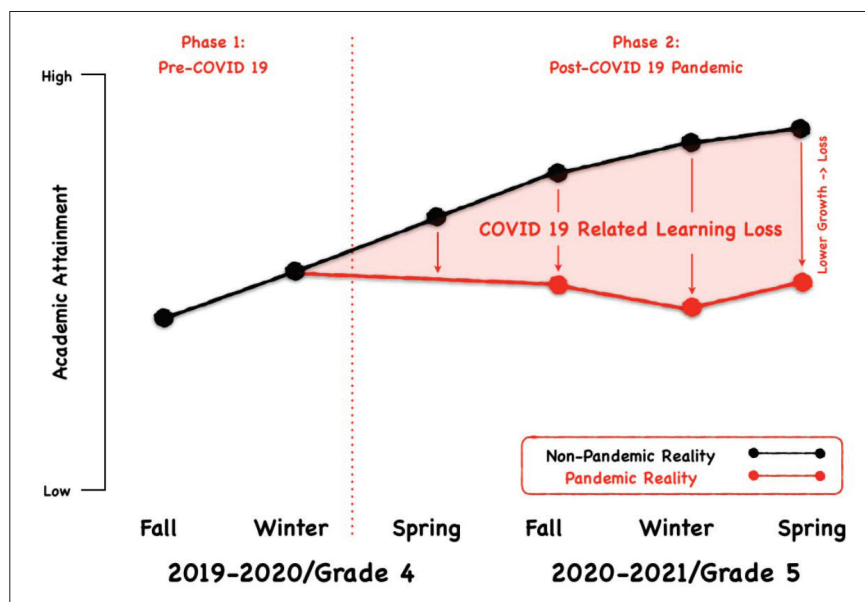
Learning loss. The term rolls easily off the tongue. But what is it really? To explain, consider two parallel realities. The first is the pandemic reality in which we currently live. The other is the reality where the COVID-19 pandemic never existed. And consider, like in some time-travel movie, being able to witness a student living through both of these realities.

Figures 1 and 2 below illustrate a hypothetical student moving through time in each of these realities while we measure their attainment (e.g., in mathematics) at different points in time. The result is a timeline of educational attainment across two realities. Figure 1 illustrates the student as their attainment is monitored using an interim-like assessment administered three times a year. Figure 2 illustrates the students and their attainment using an annual assessment administered in the spring. The dots in the figure indicate the level of attainment (vertical axis) for the student at the indicated point in time (horizontal axis). Red dots/lines are associated with our current pandemic reality and black dots/lines are associated with the non-pandemic reality. Figure 1 indicates what we currently believe is happening to most students based upon Fall 2020 results from interim assessments: The onset of the pandemic led to a decrease in student academic growth resulting in a decrease in attainment. That decrease in attainment is defined as learning loss.

The onset of the pandemic led to a decrease in student academic learning (i.e., growth) resulting in a decrease in attainment. That decrease in attainment is defined as *learning loss*.

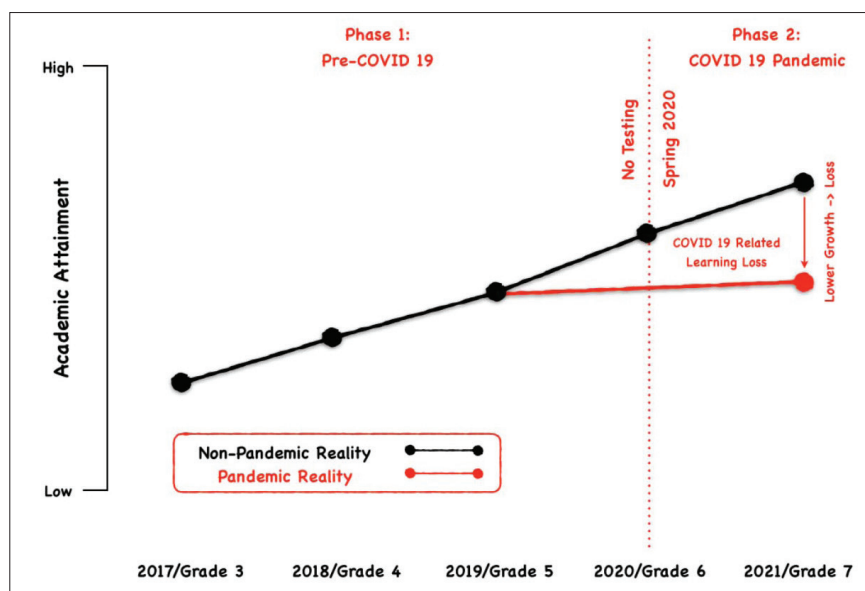
<sup>4</sup> The modest growth declines in reading may be due to content on the interim tests that is less instructionally sensitive and aligned with state English language arts content standards than what is generally found on statewide assessments.

**Figure 1: Visual depiction of learning loss based upon academic attainment measures (e.g., interim assessments) given in the fall, winter, and spring of each year.**



In Figure 2 we observe a student across the two realities but monitor their attainment using an annual assessment administered in the spring. Like in Figure 1, black dots are associated with the non-pandemic reality and red dots the pandemic reality (our reality). Again, learning loss is the decrease in learning between the non-pandemic and pandemic realities. Most important, the figures indicate a critical relationship: The decrease in attainment (i.e., learning loss) is actually the outcome of the student's decrease in academic growth.

**Figure 2: Visual depiction of learning loss based upon an annual, spring summative academic attainment measure.**



Because we cannot live through both realities and can only observe what is going on in the pandemic reality, we must somehow create a basis of comparison that allows us to assess the learning loss that has occurred. As we will demonstrate there are sensible approaches to creating the basis of comparison that utilize student growth.

Consider a situation completely unrelated to education. Suppose one was driving somewhere and in the midst of the journey a snowstorm slowed progress from 50mph to 20mph. How much “travel loss” occurred due to the snowstorm? Like with learning loss depicted in Figure 2 we need a non-snowstorm reality as a basis of comparison. The obvious non-snowstorm reality is the one where 50mph remained the going rate of speed and to use that to determine “travel loss”.

In extending the travel-during-a-snowstorm example to education-during-a-pandemic, the key is to know what constitutes, non-pandemic, academic progress/non-pandemic, academic growth. This basis of comparison is a fundamental attribute of the calculation and use of student academic growth norms. The most commonly used growth norms, student growth percentiles (SGPs), instantiate the entire range of student growth, where 50th percentile growth represents typical student growth. Using historically derived growth norms – sometimes referred to as baseline growth norms – we can render pandemic student growth relative to non-pandemic growth for all students having test scores at time periods such as those illustrated in Figures 1 and 2.

Whereas under pre-pandemic conditions 50th percentile growth represents typical student progress in the same way that 65mph represents a typical driving speed on most US interstate highways, the extent to which growth results derived in 2021 are below 50 will demonstrate the extent to which the COVID-19 “snowstorm” has slowed student learning.

This is the approach currently utilized by Renaissance Learning for their interim assessments to determine student learning loss. Using historical interim assessment data derived from tests administered fall of 2017 and fall of 2018, Renaissance Learning created growth norms showing student progress at the 1st through 99th percentiles<sup>5</sup>. By definition, the median SGP of students for the baseline, norming years is 50. This is pre-COVID-19, typical student progress. Applying these norms to assessment data from subsequent years indicates the extent to which student growth is faster/slower than in the pre-COVID-19 baseline years. As mentioned previously, fall 2019 to fall 2020 learning loss in mathematics was large (median SGP of 35) whereas learning loss in reading was modest (median SGP of 45).

Due to the lack of spring 2020 summative assessment data, baseline growth norms must be adapted to accommodate the missing 2020 data. Anticipating the calculation of student growth from 2019 to 2021, it is necessary to create baseline, skip-year growth norms in advance of the 2021 growth analyses. Doing so utilizes the state’s most recent, historical, skip-year data to calculate skip-year growth norms: 2017 to 2019.<sup>6</sup> Anticipating student growth analyses being conducted in spring 2021, baseline, skip-year growth norms have been calculated in more than two dozen states for the purpose of understanding 2019 to 2021 student growth relative to historical, non-pandemic growth and thus, assess, academic learning loss.

<sup>5</sup> The approach to calculating student growth percentiles utilized by Renaissance Learning utilizes prior student attainment (up to two prior scaled scores) and current attainment/scaled scores, time elapsed between the current and first prior assessments, and testing date of the current assessment as conditioning variables. Details are available in the technical manual available [here](#).

<sup>6</sup> We have produced a [GitHub repository](#) with step-by-step instructions on how to run historical growth analyses that create baseline growth norms (i.e., coefficient matrices) using the R-SGP package, which that can be used by any state or other organization to investigate COVID-19 related learning loss.



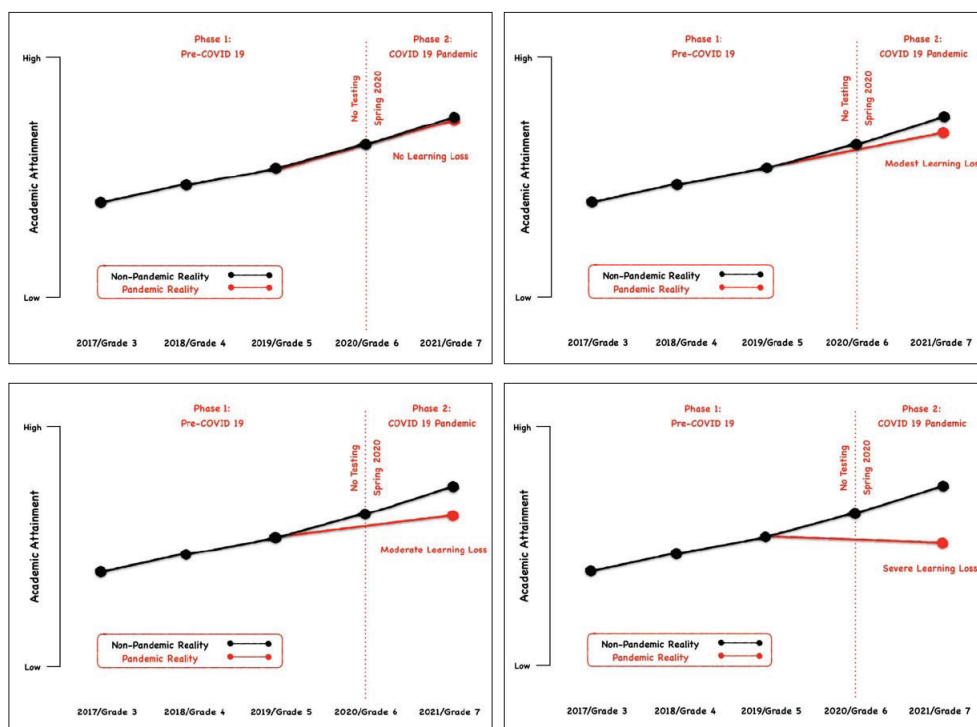
We motivated the discussion in Figures 1 and 2 using an individual student passing through these two realities and monitoring their attainment over time. These illustrations could also represent learning loss for groups of students where each dot represents the average attainment of students in that group. For example, Figure 2 could represent average learning loss for an entire state of students in 6th grade mathematics using the annual statewide assessment. In the following we consider summary results for large groups to address the overall impact of the pandemic on learning loss as well as the eventual recovery.

## IMPACT

The importance of administering statewide assessments is often premised upon their utility. During normal times their utility, in large part, is based upon their use in state accountability systems. Given the current pandemic circumstances, it is questionable whether traditional uses within state accountability systems are defensible. Currently, determinations of school quality are inextricably tangled with pandemic related issues making it impossible to get a clear picture of what exactly a good school looks like. Yet beyond traditional accountability determinations, there is great utility in administering spring 2021 statewide assessments to inform our approach to recovery. These assessments allow us to immediately answer the questions of **Who?**, **What?**, and **How much?**

Beginning with the question of **How much?**, Figure 3 illustrates 4 different learning loss scenarios based upon results from 2021 statewide assessments for individual or groups of students ranging in severity from no impact (upper left) to severe impact (lower right). Given that learning loss will impact individual and groups of students unevenly, we expect all of these scenarios to emerge. Indeed, with these impact scenarios in mind, determining what students or groups of students are associated with each scenario and in what subjects is the critical next step.

**Figure 3: Four potential learning loss scenarios: Clockwise from top-left: No learning loss, modest learning loss, moderate learning loss, severe learning loss.**



The preliminary learning loss data from interim assessments previously discussed suggest that the learning loss associated with mathematics is moderate to severe (mean SGP decrease across grades of 15) whereas it is modest in reading (mean SGP decrease across grades of 5). But these results barely scratch the surface. Statewide assessment data will additionally allow us to answer:

- Which schools and districts display moderate to severe learning loss? Are there characteristics of the schools and districts to explain the learning loss?
- Which demographic subgroups display moderate to severe learning loss?
- How severe is learning loss for students with disabilities? How severe is learning loss for students identified as gifted and talented?
- Which schools and districts display modest to no learning loss? How were they able to accomplish that?
- Do results from standards aligned assessments (e.g., state summative assessments) indicate the same results?
- How does learning loss compare between remote and in-person learners? How do other COVID-19 related opportunity to learn (OTL) indicators relate to learning loss?
- And what learning loss is observed across interactions between schools/districts, demographic subgroups, and OTL indicators?

As the latter two questions suggest, a large area of interest is in determining how learning loss relates to COVID-19 related groupings like remote learning and even the type of remote learning. These data are not routinely collected, especially at the state level. However, if such data can be collected with fidelity, then growth results from these groups will be directly and immediately applicable to whether such efforts were (un)successful in terms of mitigating learning loss with students.<sup>7</sup> Baseline-referenced growth norms open up all of these questions to immediate investigation by state, district, and/or school personnel.

One potential area of concern with regard to the calculation of baseline referenced, skip-year student growth results in 2021 to assess learning loss is missing data. Participation in spring assessments is traditionally quite high (> 95 percent). Hitting this mark in spring 2021 seems unlikely. Though the missing data doesn't impact the previously established skip-year growth norms, it would impact the set of students for whom we have growth data in 2021. As of fall 2020, students living in rural areas attend schools in-person at much higher rates (63.6%) than students living in urban areas (7.8%).<sup>8</sup> It's conceivable if not likely that spring 2021 assessment coverage might show lower participation rates in certain geographic areas and/or with certain student subgroups.

Missing data will have a larger impact on attainment comparison (percent proficient in 2019 to 2021) than to growth and learning loss. Baseline referenced SGPs are uncorrelated with prior attainment and therefore less vulnerable to systematic bias due to pandemic related missing data.

Aggregations to schools with sparse data will encounter the same issue of generalization to the entire school as attainment data. However, growth and learning loss inferences to the entire school

<sup>7</sup> See Betebenner, D. & Dadey, N. [\*What's Even Going On? Collecting Data on Student Experiences to Understand Student Learning in light of COVID-19\*](#) and Marion, S. [\*Using Opportunity-to-Learn Data to Support Educational Equity\*](#).

<sup>8</sup> Gross, B., Opalka, A., and Gundapaneni, P. [\*One step forward, one step back: Public Health Fears Keep America's School District's on a Reopening Treadmill\*](#).

with sparse growth data can be supported via methods such as propensity score matching on school characteristics combined with historical growth data.

To be clear, these growth data are not meant to support inferences about school quality in the sense of traditional accountability. Instead, these data are meant to support an effort – sometimes referred to as “small a” accountability – to identify those states, districts, schools, student subgroups, and individual students. in need of support that will enable them to recover academically from the impacts of the pandemic on their education.

## RECOVERY

As we transition from the initial stages of the pandemic, questions about the pandemic’s negative impact on the academic growth of students will shift to questions about what it will take for students to recover academically? Having answers to **Who?**, **What?**, and **How much?** will be essential in constructing feasible, appropriately targeted and effective recovery plans.<sup>9</sup> It is impossible to think coherently about recovery when we have no idea how much someone (or some group) needs to recover and in what.

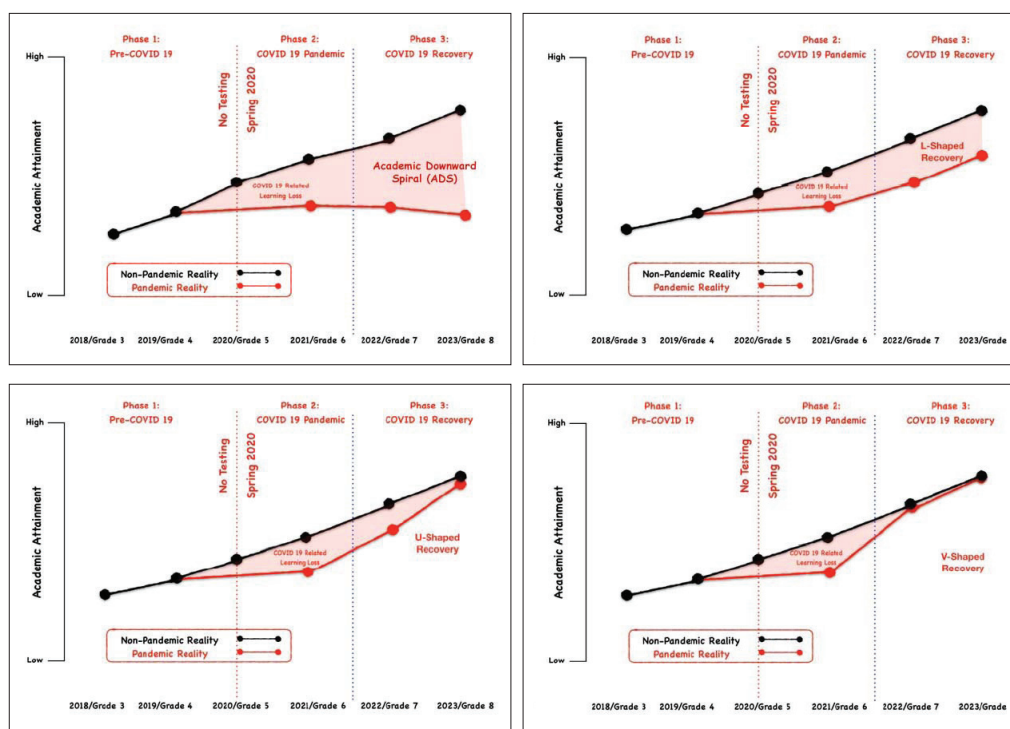
In Figure 4 we extend Figure 2 to include an anticipated period of recovery beginning in 2021. This breaks the timeline into three phases: Phase 1 – Pre-COVID-19, Phase 2 – COVID-19 Pandemic, and Phase 3 – COVID-19 Recovery. We borrow some familiar conceptualizations of [recession shapes](#) to help explain the different ways that academic recovery might look. The four scenarios presented are not intended to be exhaustive but provide useful archetypes for stakeholders to consider.

The worst case recover scenario depicted in the upper-left panel is no recovery at all: an academic downward spiral where the losses a student suffers during the pandemic continue to cascade downward. The upper-right panel depicts an L-shaped recovery where the student doesn’t fall further behind after the initial loss but doesn’t catch up either. The third scenario is the U-shaped recovery shown in the lower-left panel. In the U-shaped recovery the student catches up gradually over multiple years. The last and best-case scenario, the V-shaped recovery shown in the lower-right panel is when the student catches back up immediately.

As we transition from the initial stages of the pandemic, questions about the pandemic’s negative impact on the academic growth of students will shift to questions about what it will take for students to recover academically?

<sup>9</sup> The IES is currently proposing an intense 3-year experiment called *Operation Reverse the Loss* to investigate interventions to help students recover from learning loss. <https://ies.ed.gov/director/remarks/10-26-2020.asp>

**Figure 4: Four potential Phase 3 academic recovery scenarios. Clockwise from top-left: No recovery (Academic downward spiral/ADS), L-shaped recovery, U-shaped recovery, and V-shaped recovery.**



It goes without saying that the most desirable recovery for all students is V-shaped. Pronouncements that students are “resilient” and will “bounce back” attest to our hopes for that V-shaped recovery. Unfortunately, hopes for V-shaped recovery do not compel it to happen. The goal should be to maximize the percentage of students having either a V- or U-shaped recoveries and minimize the percentage of students who don’t recover. Attaining this goal requires an understanding of the magnitude of the learning loss being experienced by states, districts, schools and other relevant groupings of students. Knowing the magnitude of learning loss will inform just how feasible a V-shaped recovery is.

There is extensive history of state level student growth that can be utilized to inform recovery efforts. Student growth percentile analyses of state longitudinal data began in 2007. Being norm- and criterion-referenced, the results of these analyses cover over 30 states and provide a backdrop against which to understand what education systems (e.g., states, district, and schools) can sustain in terms of academic growth. We know, for example, that typical (i.e., 50th percentile) growth does not usually “catch up” non-proficient students to proficiency nor is it sufficient for proficient students to reach achievement levels above proficiency. In general, students that start behind tend to stay behind and students that start ahead tend to stay ahead.<sup>10</sup>

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<sup>10</sup> The concept of students needing to “catch-up” is not new in education. Many state accountability systems utilize the growth students need to catch-up as a basis of their accountability systems. In some states, grades and content areas, the majority of students need to catch-up. Note that with COVID-19, the goal of catching students up to where they would have been had the pandemic not occurred is still below where we wanted them to be anyway.

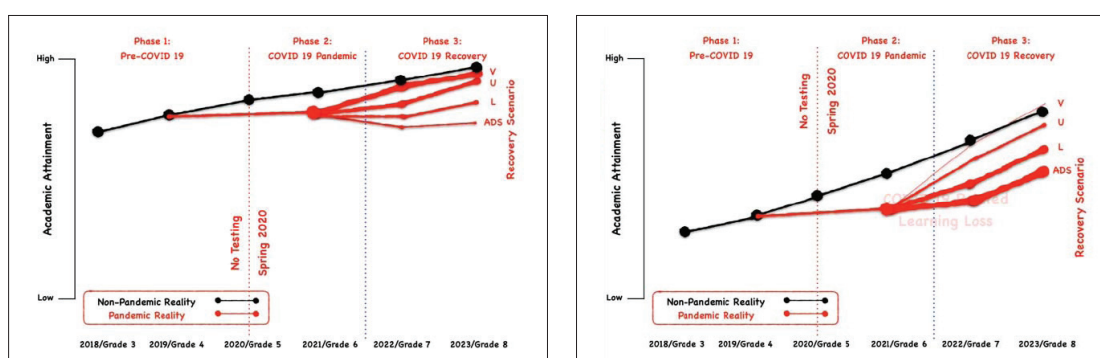
Academic recovery from the pandemic is somewhat different than state efforts to catch students up to proficiency, but the same logic holds: In our efforts to get students back on track (i.e., the track that typical/50th percentile growth produced) we will need student academic growth that exceeds what we have historically typically observed. This holds for individuals as well as subgroups of students. For example, assume that a state's mean 2019-2021 SGP derived from summative assessments for grade 5 students in mathematics is similar to that found with the Renaissance STAR assessment data and equal to 32. To make up that learning loss will require a mean SGP for the state of at least 68 in the following year (2021-2022). Such a result is without precedent in the more than decade of looking at state level SGPs in the United States. The best we could hope for – and what should be planned for – would be a multi-year U-shaped recovery.

### BEWARE THE K-SHAPED RECOVERY

Which of the Figure 4 scenarios will occur? In reality, all of them will occur. What is unknown and what effective policy can influence are the proportions and types of students in each of the scenarios. The panels in Figure 5 illustrate this for two types schools: A school serving higher achieving students (left panel) and school serving lower achieving students (right panel). During the recovery, both of these schools will have individual students experiencing each of the four types of recoveries. Some students will see a V-shaped recovery, some an L-shaped recovery, some a U-shaped recovery, and some will fall into an academic downward spiral.

However, the two schools do not experience similar proportions of students in each of the recovery scenarios. The weight of each line indicates the proportions of students in that school following that recovery path. The two pictures present a situation where students at the higher achieving school predominantly follow V- and U-shaped recoveries whereas the students at the lower achieving school predominantly follow and L-shaped recovery or fall into an academic death spiral.

**Figure 5: Potential recovery scenarios for two schools: A school serving higher achieving students (left) and a school serving lower achieving students (right). The weight of the line indicates the proportion of students following that recovery path.**



Indeed, as Figure 5 illustrates, a strong possibility of utmost concern for our national commitment to more equitable outcomes in education is that the most academically dangerous part of the entire pandemic for disadvantaged students is not during the pandemic phase but during the recovery phase. Without a substantial and committed effort, we could very well see lower achieving, at-risk students predominantly falling into the latter two non-recovery scenarios (right panel of Figure 5) and advantaged students falling predominantly into the first two (left panel of Figure 5). Called a



[K-shaped recovery](#), such a scenario would lead to ballooning achievement gaps in the years after the pandemic – beyond what they were before the onset of the pandemic – due to differential recovery rates.

Essential in avoiding a K-shaped recovery is to have data from statewide assessments that allows us to understand the impact (Phase 2) and to monitor the recovery (Phase 3) of students. Without Phase 2 data that helps us understand **Who?**, **What?**, and **How much?**, it will be impossible to separate impact from recovery. For example, without spring 2021 assessment data, widening achievement gaps between, for example, ethnic subgroups, will likely be attributed to differential impact of the pandemic when it is entirely possible that the differential recovery is the culprit.

Beyond monitoring impact and recovery, preventing the worst types of recovery scenarios from happening will likely require large scale interventions both inside and outside the school or classroom. Substantial economic and socio-emotional costs due to the pandemic have been felt by millions of families. Academic recovery for students caught up in these circumstances will require recovering a foundation that so many families lost.

## CONCLUSION

As we live through the COVID-19 pandemic, foresee its end, and consider the policies and interventions necessary to cope with and ultimately recover from the learning losses students experience, we must commit ourselves to the collection of high-quality data to help inform education policy related to the COVID-19 pandemic. This includes data derived from large-scale, statewide, summative assessments. Data derived from large-scale, statewide assessments have become fundamental to our understanding of student educational attainment and growth in the United States over the last two decades. Despite their traditional use in state accountability systems being highly problematic for the 2020-2021 school year, these data are essential in answering the questions of **Who?**, **What?**, and **How much?** to inform academic recovery from the pandemic.

This is not to suggest that we test at all costs and or recklessly risk the health of students and teachers. It is to suggest that we test as best we can and marshal the well-established statewide data collection efforts to help us understand and ultimately mitigate the impact of the pandemic on students.

The prescriptions outlined in this paper are not novel or new. In any given year there are millions of students who experience a dip in their academic attainment (i.e., experience low growth). The COVID-19 pandemic has just substantially increased that number. Historically, state accountability

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systems built using statewide assessment results have been inadequate in identifying these students falling back. Past inadequacy is no excuse for not redoubling efforts now to leverage statewide assessment results to help students recover academically.

As of January 2021, the United States is almost completely in the dark as to pandemic's impact on student learning. Early interim assessment results have given us a glimpse of the magnitude of the impact but have been extremely limited otherwise. We need much more and much better data to intelligently move forward.

Spring 2021 statewide assessment data will be an indispensable flashlight, helping to illuminate the circumstances we find ourselves in, to chart a path forward, and to monitor our journey along that path. This will be most critical for traditionally disadvantaged groups. Absent this data, efforts to address inequity in our education system will likely take a significant step backward as the disadvantaged suffer the worst consequences of the pandemic while the advantaged predominantly recover. Preventing this outcome will likely require an unprecedented effort nationwide built upon high quality academic attainment and growth data like that provided by statewide assessments.

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